

# PATENT ABSTRACTS OF JAPAN

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## (54) INFORMATION PROVIDING SYSTEM

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide information in a configuration optimized for each user and to select and display a part of contents.

SOLUTION: An information providing server makes access to a site designated by the user (PR1)and obtains configuration information (PR2). The whole of contents such as a top page is dissolved into row units (PR3)and a row selection screen is produced (PR4). Only the contents of the row selected by the user are drawn to be offered (PR5). In this wayunnecessary information is removedand a limited screen area can be used effectively.

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## CLAIMS

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[Claim(s)]

[Claim 1]An information service system which integrates two or more information which is provided with the following and characterized by constituting said each offer-of-information part so that offer of only partial information selected among each part minute information included in said each information is possibleand which a user chose and with which this user is provided.

Two or more information acquisition sections which acquire information from sources of informationrespectively.

Two or more offer-of-information parts which provide said acquired each informationrespectively.

An integrated management means on which said each offer-of-information part is integrated and displayed.

[Claim 2]The information service system according to claim 1 which as for said each offer-of-information part is constituted so that offer of only partial information selected among each part minute information included in said acquired each information is possible.

[Claim 3]The information service system according to claim 1 with which said each information acquisition section acquires only said selected each part minute information from said sources of information.

[Claim 4]The information service system according to claim 1 provided with a partial information selecting part for said each offer-of-information part to choose said partial information providedrespectively.

[Claim 5]The information service system according to any one of claims 1 to 4 in which said each part minute information is what extracts said information in a predetermined unit.

[Claim 6]The information service system according to claim 5 in which said predetermined unit is a line unit.

[Claim 7]Inside of said acquired information which said each offer-of-information part providesrespectivelyor said selected each part minute informationProvide a

selecting part for a predetermined inspection which chooses information and partial information for perusing under predetermined inspection environment in said each offer-of-information part respectively and said each offer-of-information part The information service system according to any one of claims 1 to 6 which provides said information and partial information with said selected selecting part for a predetermined inspection with a gestalt suitable for said predetermined inspection environment.

[Claim 8] The information service system according to claim 7 in which said predetermined inspection environment is the mobile communication environment to which inspection screen size was restricted.

[Claim 9] When a certification information management tool which manages certification information is established and said sources of information require attestation The information service system according to any one of claims 1 to 8 which acquires information from said sources of information when said each information acquisition section generates a request which includes certification information with reference to said certification information management tool.

[Claim 10] In a program for integrating two or more information which a user chose and providing for this user A program for realizing a function to make information acquire from sources of information a function as which any one or two or more partial information are made to choose among each part minute information included in said acquired information and a function to make said selected partial information provide via an offer-of-information part on a computer.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the information service system which provides each user with various information from the server placed on

communication networks such as the Internet and intranet for example.

[0002]

[Description of the Prior Art] The user can acquire various information now from on a network via information inspection software typically like a web browser with progress of the computer communication network and personal computer which are represented by the Internet etc. The user can raise the productivity of intellectual labor greatly by the thing which was accumulated on the network and which use various knowledge data effectively variously. By using not only knowledge data but an electronic commerce system (EC) the user can purchase various tickets such as an airline ticket on-line or can move deposit of a bank account for example.

[0003] By the way under multitasking OS two or more application programs such as a web browser (there is restriction of an available computer resource with each client machine) a mail client and an electronic commerce system can be started. For this reason in order for required information to come to hand or to conduct required dealings a user will start two or more application programs and will perform predetermined operation within each application.

[0004] On the display of the client machine which a user uses the user interface of many application programs will open so that a user arranges two or more work in parallel and performs it. In order that each application may move independently mutually each user interface is also mutually developed on a display independently. The user has to discover and operate a required thing from the user interface developed disorderly and the productivity of intellectual labor etc. fall.

[0005] Under distributed network environments since various knowledge data are produced every moment and accumulated in every place knowledge data distribute and flow to every place. There is no guarantee in particular it is useful and is continued in the intense field of change even if the site which was sources of information useful till yesterday continues for the future. Therefore the user who searches for the newest useful information always needs to evaluate the

usefulness of sources of information and needs to update a site address (URL:Uniform Resource Locator) etc.

[0006] Thus although development of distributed network environment and personal computer art contributed in respect of production of information circulation etc. the disorderly information overload state is also produced simultaneously.

Each user became difficult [ it / for the information which he wants to come to hand when required ].

[0007] Then the service called what is called an "Internet portal" was born. It is understood as the Internet portal as a website which also doubles various information including a sport entertainment science etc. by which the genre division was carried out beforehand and generally provides a search engine also in a core. Although the early Internet portal provided the same service to all the users in the improved Internet portal efforts to provide service (for example it provides for the user who likes a sport focusing on sport-related information) suitable for each user respectively are made.

[0008] In recent years the information consolidation service called an enterprise information portal (EIP:Enterprise Information Portal) is also provided. An enterprise information portal integrates the information which exists within and without a certain company and organization and generally provides it by the organization optimized for every constituent.

[0009]

[Problem(s) to be Solved by the Invention] The Internet portal and enterprise information portal which were improved are prepared for every user and since the information composed per everybody can be provided they provide the user with one useful means for managing information under the environment of information overload as mentioned above.

[0010] However although composed for every user when the information selected according to each user's taste and attribute etc. by the administrator side is

provided change of each user's intellectual curiosity cannot be followed promptly but it is user-unfriendly for a user. For example provide with horticulture the user who considers it as a hobby focusing on horticulture pertinent information or. Sell to the employee of a sales department and Or the graph of transition a supplier list a customer list Although the information property as an organization and the target sharing have a value in the fixed and mechanical uniform service according to the attribute etc. of each user who provides new product news etc. it is far from effective use of the information based on each user's spontaneity.

[0011] The information accumulated on the network is a huge quantity and since information is newly produced every day it is difficult to choose the optimal information by the administrator side for every user to extract only required information and to provide for each user.

[0012] Even when sources of information are limited to some extent temporarily in order to extract and provide only required information for a user among various kinds of information which sources of information provide The program etc. which choose information suitable for a user from the information which specifies sources of information for every user and sources of information provide must be prepared and the control of maintenance also takes time and effort very much.

[0013] Even when selection of information is left to each user since there is a limit in scope size it is based on quantity of information display size per information etc. to display but it is difficult to display all the required information at once.

[0014] Although based also on the kind of information which sources of information provide it is not a reason which needs each whole information a user expects acquisition. For example if a news web site (WWW server which can peruse a report) is mentioned as an example the single report will not necessarily be published by the top page equivalent to the 1st page of a newspaper and usually size doubling \*\*\*\*\* of the various reports will be carried out. What is necessary is just to display the whole top page when all the reports published by the top page are required for a user. However if it displays the whole

top page also when you need only some reportsuseless information will occupy the limited screen.

[0015]If all the information that includes required information only in the part has been arranged to the display screenit is hard to peruse the information needed trulyand user-unfriendly.

[0016]On the other handin recent yearsa network is accessed via the small information terminal which can carry a cellular phonea Personal Digital Assistantetc.and the case which acquires desired information is increasing. It is a gestalt called what is called "mobile computing." To acquire and peruse desired information using such a small information terminalit is necessary to care about the following points.

[0017]One is a problem of hour corresponding. Generallyat mobile communicationsit is difficult to maintain the stable communication connection for a long timeand since communication cost also increasesit is necessary to access the target information as much as possible for a short time. Other one is a problem of restrictions of screen size. In order "to carry"the size of a small information terminal receives restriction. Inevitablythe screen size is also miniaturized. In today when a disk top type personal computer is provided with a display (17 inches - 21 inches)the display sizes of a small information terminal are at most 6 inches - about 9 inches. In the case of a smaller terminal like a cellular phone or a Personal Digital Assistantit has only a 2 or about 3-inch display.

[0018]In order to access the target information promptlythe use of an information portal mentioned above is convenientbut since screen size is smalla limit is among the amount of information which can be displayed. Thereforeit is necessary to choose only information required much more precisely at the time of mobile communications.

[0019]The 3rd feature exists in the information inspection by mobile communications in addition to the above. It is the point that the information to be used is also different according to a user's movement destination. For

example when the case where a businessman takes an official trip to a local city is mentioned as an example the information about an in-house product or competitive products is information with an area important unrelated always in which he is located. However a weather report traffic information etc. which cover his place of business reduce value relatively by his movement. It is because information required for the businessman of a business trip destination is not the information about the weather and the traffic congestion of place of business but information about the weather and transportation condition of a business trip destination.

[0020] this invention is made in view of the above-mentioned technical problem and comes out. The purpose is to eliminate inner unnecessary information and to provide the information service system which can provide only the information which each user needs.

There are other purposes of this invention in providing the information service system which chooses useful information easily and enabled it to perform optimal organization even when receiving restriction in inspection environment. The further purpose of this invention will become clear from the embodiment mentioned later.

[0021]

[Means for Solving the Problem] In order to solve an aforementioned problem not only a certain whole information but its information is chosen selectively and it enables it to display it in an information service system concerning this invention.

[0022] Namely two or more information acquisition sections which an information service system concerning this invention integrates two or more information which a user chose provide a user with it and acquire information from sources of information respectively. It has two or more offer-of-information parts which provide acquired each information respectively and an integrated management means on which each offer-of-information part is integrated and displayed and each offer-of-information part is constituted so that offer of only partial information selected among each part minute information included in each information is possible.



[0023] Here integrating two or more information means that a single user interface arranges various kinds of information and it provides rather than displays information using a separate user interface for every application program. As "sources of information" a WWW (World-Wide Web) server etc. which provide a text a picture etc. are mentioned for example. An information acquisition section is provided with a protocol required to acquire information from sources of information etc. and acquired information is passed and displayed on an offer-of-information part. An information acquisition section and the offer-of-information part do not need to correspond by the couple 1. An integrated management means manages a display of each offer-of-information part integrative. That is the offer-of-information parts which exist in the same screen interfere mutually or the whole layout is adjusted so that it may not be overlapped and displayed.

[0024] For example like two or more part contents (each report a picture etc.) which constitute a certain web page partial information included in each information is information included in information and is the part substance of \*\* which makes a certain settled meaning or the bank. If one information may comprise single substance it may be constituted as a set of two or more substance (partial information). When a certain information consists of two or more partial information only selected information can be displayed via an offer-of-information part.

[0025] Each offer-of-information part comprises a suitable embodiment so that offer of only partial information selected among each part minute information included in each acquired information is possible.

[0026] That is although an information acquisition section acquires the whole information an offer-of-information part displays only partial information selected among acquired information.

[0027] On the contrary each information acquisition section may be constituted so that only selected each part minute information may be acquired from sources of information.

[0028] According to a suitable embodiment each offer-of-information part is

provided with a partial information selecting part for choosing partial information provided respectively.

[0029]The user can choose desired partial information via a selecting part.

[0030]Here each part minute information becomes unable to extract information in a predetermined unit and can extract it per line for example.

[0031]As a predetermined unit a title unit a front unit etc. can be mentioned for example in addition to a line unit. By decomposing information for every line and supposing that it is selectable desired information can be chosen more precisely.

[0032]When extracting partial information per line low partial information of utility values such as an updating date of information may also be extracted for example but scarce partial information of such utility value is no longer displayed by removing from selection. On the other hand although a possibility that scarce partial information of utility value will mix can be reduced when extracting partial information per title etc. valuable partial information may leak from extraction. A prescribed unit which extracts partial information can be suitably set up from the above viewpoints etc. Each user may enable it to change a prescribed unit freely himself and may be made to use it combining two or more units (a line a title etc.).

[0033]According to a suitable embodiment a selecting part for a predetermined inspection which chooses information and partial information for perusing under predetermined inspection environment among acquired information which each offer-of-information part provides respectively or selected each part minute information is provided in each offer-of-information part respectively. And each offer-of-information part is constituted so that information and partial information with a selected selecting part for a predetermined inspection may be provided with a gestalt suitable for predetermined inspection environment.

[0034]As "predetermined inspection environment" mobile communication environment to which inspection screen size was restricted can be mentioned.

[0035]Only information used under environment where inspection screen size was restricted among two or more acquired information (partial information is included) is chosen by a selecting part for a predetermined inspection.

Therebyfor example under mobile communication environment which uses a small information terminalrequired information can be accessed promptly.

[0036]In a suitable embodimentwhen a certification information management tool which manages certification information is established and sources of information require attestationeach information acquisition section acquires information from sources of information by generating a request which includes certification information with reference to a certification information management tool.

[0037]Therebythe user should just log in to an information service system onceand attests by each information acquisition section executing by proxy to each required sources of information of attestation. here -- being careful -- not attestation vicarious execution but an information acquisition section by Cookie which is known conventionally are a point which generates a request included certification information.

[0038]

[Embodiment of the Invention]Hereafterbased on drawing 1 - drawing 15an embodiment of the invention is explained in full detail. Drawing 1 - drawing 12 are the drawings concerning a 1st embodiment of this invention. Drawing 1 is a composition explanatory view showing the whole information service system outline concerning this embodiment.

[0039]The offer-of-information server 1 which unifies and provides several different information is a WWW server which presents the information individualized for every user according to the request from the client program 21 which works on the client machine 20.

[0040]Hereas the client machine 20a personal computera workstationa Personal Digital Assistant (a cellular phone is included)etc. can be mentionedfor example. As the client program 21the web browser which transmits and receives information with a HTTP (Hyper Text Transfer Protocol) protocol etc. is used suitablyfor example (a client program is hereafter called a web browser). Howeveran HTTP protocol and a web browser are examples and this invention is not limited to this.

[0041]Each user only accesses the offer-of-information server 1 and does not need to open the web browser 21 for every WWW server like [ it is available in all the required information and ] before. This offer-of-information server 1 realizes what is called a single access point of providing all information required of access to one place. The information provided from the offer-of-information server 1 is displayed on the web browser 21 as the offer-of-information screen 30. The composition of the offer-of-information screen 30 is mentioned later.

[0042]The offer-of-information server 1 can provide with and constitute the whole Management Department 2, the page control department 3, the area Management Department 4, the controller Management Department 5, the contents adapter 6, and the management data base (DB and brief sketch) 7.

[0043]The whole Management Department 2 is equivalent to an "integrated management means" and can manage two or more page control departments 3. A "page control means" and expression are possible for the page control department 3 and it is for displaying two or more pages on the offer-of-information screen 30. Two or more areas can be set to each page. An "arrangement area management tool" and expression are possible for the area Management Department 4 and it is for managing a layout per area. Two or more controllers can be set to each area. An "arrangement frame management tool" and expression are possible for the controller Management Department 5 and each controller can manage two or more contents adapters 6. The contents adapter 6 is equivalent to an "information acquisition section" takes the place of the web browser 21 and acquires information from various kinds of sources of information 10.

[0044]As the sources of information 10, the various application programs (a ticket, the reservation system of stay, etc.) on a web page (page which a WWW server provides) and a website, a database, etc. can be mentioned for example. The sources of information 10 do not need to exist in the exterior of the offer-of-information server 1 and can also be established in the offer-of-information server 1. As sources of information in a server, a database in the company, an in-company

document etc. can be mentioned for example. An example of the concrete composition of contents adapter 6 grade is mentioned further later.

[0045] Next drawing 2 is an explanatory view showing the composition of the offer-of-information screen 30 displayed on the web browser 21.

[0046] The offer-of-information screen 30 is divided roughly into the portion (public area) provided in common with each user and a page. Public area is what presents the eternal information uniformly provided to all the users regardless of each user's attribute. It comprises the common header part (it is also called top area) 31 displayed on the web browser upper part and the menu area 32 displayed on a web browser side edge part. In the top area 31 the contents indicators 70 such as a service name of the offer-of-information server 1 and a global link can be arranged for example. Even when a link is followed and it moves by indicating the service name etc. by eternal the sense of security of working within the offer-of-information server 1 can be given to a user.

[0047] The annunciator part 34 grade for showing the menu area 32 to the change of the 33-page contents indicator which displays User Information can be arranged. It is for the annunciator part 34 changing each page from which it is equivalent to a "selecting part" and a kind differs. As a kind of page a public page (public P) a user page (user P) and a group page (group P) can be set up. Here a public page is a page provided regardless of the registered user or guest to those [ all ] that accessed the offer-of-information server 1. A user page is a private page provided to the user (login user) attested with a user name a password etc. A group page is a page with which only the specific group who consists of one person or two or more users is provided. Only the user belonging to the group can refer to a group page. A public page a user page and the group page can consist of two or more pages respectively. In this meaning a public corner can be called for a public page and a user corner and a group page can be recalled for a user page as a group corner etc.

[0048] The page is displayed on the approximately center part of the web browser 21. for example the homepage 41 -- the 2nd page of two or more pages can be

set up like 42. When the new page 43 is added the tab of a new page is added to the backmost part of the existing page. The addition of a page is mentioned later.

[0049]The area which extends along the horizontal direction (transverse direction) of a page to each page can be arranged [ two or more ] perpendicularly (lengthwise direction). Area corresponds to an "arrangement area." The two area 51 and 52 is illustrated in the figure. Two or more controllers prolonged in the perpendicular direction of a page in each area can be arranged side by side horizontally. A controller corresponds to an "arrangement frame" in the figure the two controllers 61 and 62 are arranged in the upper area 51 and the one controller 63 is arranged in the lower area 52 respectively.

[0050]For each controller one or more contents indicators 70 can be arranged. The contents indicator 70 is equivalent to a "offer-of-information part" and is provided with the title display field 71 and the contents viewing area 72. The controller can arrange two or more contents indicators 70 side by side perpendicularly. The mounting directions mentioned above are examples and this invention is not limited to this. Area is arranged side by side horizontally and it may be made to arrange a controller side by side perpendicularly in area.

[0051]Important points are the point which differs in the controller mounting directions in area and the mounting directions of the contents indicator within a controller and a point of following movement of higher rank structure. If area is moved as following movement of higher rank structure all the contents indicators 70 in all the controllers in area and this controller will also move with movement of area. When a controller is moved all the contents indicators 70 contained in a controller are also meant as moving together. On the contrary movement of low rank structure does not affect the position of higher rank structure. That is even if it moves a controller the position of the area where this controller belongs does not change. Mounting directions are changed and a delicate and dynamic layout change is possible by having made low rank structure movable at one. In the following explanation in a figure although numerals do not give a page may be named generically the page 40 and area may be named generically the area

50and a controller may be named genericallyand it may be expressed as "the controller 60."

[0052]Nextdrawing 3 is an explanatory view showing the details of a page. The display of the expedient top (on restriction of the size of a drawing) of explanation and drawing 3 and the display of drawing 2 differ a little.

[0053]in drawing 3 -- first -- it should observe -- the control buttons 81-87 for changing a layout etc. into each area 50each controller 60and each contents indicator 70respectively are the points established in one. The "one target" does not need to mean unifying seemingly and each of the area 50the controller 60and the contents indicator 70 does not need to have data of a control button with a natural thing.

[0054]There are the disappearance button 81the lower go button 82the upper go button 83the right translation button 84the left translation button 85the help button 86and the edit button 87 in a control button. The disappearance button 81 extinguishes the object to which it was given. Hereby this embodimentalthough temporary elimination on a display and lasting elimination can be considered as "disappearance"when the disappearance button 81 is operatedthe subject (areaa controllera contents indicator) is eliminated everlastingly. Thereforein order to prevent the mistaken disappearance operation although it is necessary to add anew when a user wishes a display for the second timewhen the disappearance button 81 is operatedthe message which stimulates cautions is displayed.

[0055]Each go buttons 82-85 are for moving the subject in which it was given in the predetermined direction. The go buttons 82-85 are given according to the attribute of a subjecti.e.a movable direction. That issince the contents indicator 70 is perpendicularly arranged within a controllerit has only the lower go button 82 and the upper go button 83and the right translation button 84 and the left translation button 85 are not formed. Similarlythe go button according to each movable direction is provided also in a controller and area.

[0056]The help button 86 is for displaying the help menu beforehand prepared for every application program. The edit button 87 sets up the addition etc. of the

contents displayed on the contents viewing area 72 of the contents indicator 70. Like the after-mentioned this offer-of-information server 1 is selectively provided with the new feature that contents can be displayed not per the whole contents but per line etc.

[0057] Here the button set which consists of either or the plurality of the disappearance button 81 each go buttons 82-85 and the edit button 87 among control buttons corresponds to a "layout operation part" a "frame layout operation part" or a "field layout operation part." The set of the control button set as a subject becomes settled with the characteristic of the information concerning the attribute of a subject or a subject etc. For example when a certain contents indicator 70 is what displays a web page the edit button 87 is contained in the control button set formed in this contents indicator 70 and it gets. However the control button set which does not contain the edit button 87 is set to another contents indicator 70 which displays the contents which can perform neither edit nor setting out.

[0058] As no control button set can be formed in the contents indicator 70 in public area the unified appearance of public area and composition can be maintained to it and in it it can constitute so that public contents common to All Users may certainly be provided. Namely a layout operation part is not set to the shared area (public area and public page) which arranges the share contents provided in common with each user. It can constitute so that a layout operation part may be set only to the individual field (a user page and a group page) with which each user (a group is included) of every is provided.

[0059] When drawing 3 is observed a page understands that the page addition button 91 the page deletion button 92 the area addition button 93 the controller addition button 94 the contents addition button 95 and the page go button 96 are formed in the position respectively. The icon display of each buttons 91-96 does not have to be carried out and they may be displayed like a text link button.

[0060] The page addition button 91 is for adding a new page. The page deletion button 92 is for deleting a page. Page deletion is not permitted to all pages. Only



those who acquire manager authority are allowed deletion of a page like a public page or a group page shared. Even if it is a user individual's page the page [ 1st ] homepage can be set as deletion impossible.

[0061]The area addition button 93 is for adding new area in a page. New area is added to the prescribed position of the bottom of a page etc. for example. The controller addition button 94 is for adding a new controller in area. Therefore the controller addition button 94 is formed for every area. But when area and a controller are hidden by the normal state and it shifts to layout editing mode so that it may mention later with drawing 9 it is also possible to display existence of area and a controller.

[0062]The contents addition button 95 is for adding new contents in a controller and is provided in each controller. The page go button 96 moves a page and consists of the right translation button 84 and the left translation button 85. Although the portion which attached the numerals 96 is a portion which displays "page movement" it is used as the expedient top of explanation and the page go button 96. The numerals 96 are not operated but page order changes with go buttons 85 and 84 on either side forward and backward actually.

[0063]Next based on the explanatory view of drawing 4 and drawing 5 the structure of each data table managed by the management data base 7 is explained.

[0064]Drawing 4 (a) is a table which manages User Information. The User Information table matches each user name and the page identification number (following ID) which specifies the page which each user holds for example and is held. Here it is given for every individual and also a user name is given for every group. In order to manage the public page which a guest can also refer to the user name for guests is also set up. The page which a user holds means the page with which the user is provided. "PID 13 and 6" means that each page specified by PID1 PID3 and PID6 to the user U1 is provided.

[0065]Drawing 4 (b) is a table which manages the constitution data in a page. The page data table matches and holds page ID a user name a page title and area

data for example. Area data is data in which the area set up in the page and a controller are shown. For example although indicated as "A1 [12]A2 [3]" to the area data of PID1 it means that two areas the area A1 and the area A2 is set up into the page as which this is specified by PID1 and the area A1 has controller CID1 and controller CID2 and the area A2 has controller CID3. Therefore if a page data table is referred to the outline layout (area and controller) of the page can be known.

[0066] Drawing 4 (c) is a table which manages a controller. The controller data table matches and holds controller ID (CID) the user name the affiliation page and the object ID list for example. An object ID list is a list of [ for specifying the contents indicator 70 displayed in a controller ] (it is a list of [ for specifying the contents displayed correctly ]).

[0067] Drawing 4 (d) is a table which manages the data of an object. The object data table matches and holds object ID (OID) a user name an affiliation page affiliation controller ID and an object kind for example.

[0068] Drawing 5 (a) is a table which manages authentication data. The data demanded on the occasion of contents use for example a user name and a password is matched with an attestation data table and it is held. An attestation data table is equivalent to a "certification information management tool."

[0069] The contents adapter 6 generates the request (for example HTTP request) included certification information (a user name and a password) with reference to an attestation data table and transmits to the sources of information 10 (website) which require attestation. If it sees from the sources of information 10 distinction of whether for the offer-of-information server 1 to have executed by proxy whether a user's client machine 20 would have accessed and to have accessed will not be attached. The sources of information 10 distribute information according to a user's (contents adapter's) demand when it distinguishes that authenticating processing is completed and he is a registered user. here -- being careful -- when the contents adapter 6 generates the request included certification information it is the point that attestation vicarious execution is

performed. This is different although the art called what is called Cookie is used in the single sign-on art known conventionally. Cookie art is for a server to identify each client and a client replies the file (ticket) which wrote in certification information according to the demand from a server. In order to introduce Cookie art into a client/server system it is necessary to constitute the server side program so that the existence of Cookie may be asked and to set up in a client side receive and hold Cookie. It is not necessary to hold Cookie and contrary to this by this invention since the contents adapter 6 generates each time the request included certification information even if it is when un-\*\*\*\* [ the server side program of each sources of information 10 / Cookie ] attestation can be executed by proxy.

[0070] Here how to provide the information customized for every user is briefly described using said each table. When the user U1 accesses this user is distinguished as a guest at the time before login and a public page is provided. If a user logs in the whole offer-of-information server 1 Management Department 2 will recognize as the user U1. According to the User Information table the page which the user U1 holds is 3 pages of PID 13 and 6. Explanation is continued paying attention to PID1 [ page / 1st ].

[0071] Next reference of a page data table sets the two area A1 and A2 to the page of PID1. ID of the controller which each holds is matched with each area A1 and A2 respectively (in CIDs 1 and 2 in the area A1 CID3 is to the area A2). Then a controller data table is referred to. For example CID1 holds three object OID1 and 2 and 3. Each object can be drawn and can make it display by referring to an object data table. Thus a page can be drawn and provided for every user by referring to each hierarchized table one by one.

[0072] Next drawing 6 is an explanatory view showing how to choose contents selectively and to display them. For example the new contents indicator 70 is generated when choosing a web page as this contents indicator 70 selectively and displaying it on it the edit button 87 of the contents indicator 70 is operated and URL of a web page is specified. The contents adapter 6

corresponding to the contents indicator 70 accesses the web page page 10 of the specified site (PR1) and acquires the configuration information 10A on the specified web page (PR2). As configuration information a source code a style sheet etc. which were written by Page Description Languages such as HTML and XML (eXtensible Mark-up Language) can be mentioned for example.

[0073] And configuration information is analyzed (PR3) the menu of a line unit is generated from a web page and a user is shown (PR4). For example by analyzing tags such as a line feed tag <BR> and a table tag <TD> whole contents called a web page are decomposed into the partial contents of a line unit and a user is shown as a line selection picture. A user chooses only that for which it asks out of two or more enumerated lines. When a user's selection is completed the contents adapter 6 draws only the contents of the selected line and is made to display them on the contents indicator 70 (PR5).

[0074] Thereby as shown in drawing 6 top news and a "stock price" with the selected user are displayed on the contents indicator 70 among whole contents called the top page of "Ox news web site" for example. Other contents linked to the displayed contents can be displayed by following a link within the contents indicator 70. Thus since only desired contents are extracted selectively and can be displayed from a contents aggregate it becomes much more personalization-customizable and information can be provided by the organization optimized for every user.

[0075] Although the case where it extracted per line as a partial example of extraction of contents was illustrated this invention is not limited to this. By changing the method of structural analysis on various units and a level contents can be extracted selectively and can be displayed. For example contents can also be extracted per title and it can also extract per theme. Since structure more detailed than HTML is possible for XML in the unit except mentioning here it can choose contents selectively and can display them. It can also constitute so that it may extract combining a title etc. and a line.

[0076] Next the outline of layout change is explained with reference to drawing 7 -

drawing 9. Drawing 7 shows the case where the position of the contents indicator 70 is changed. Drawing 7 (a) shows layout change before of the contents indicator 70 and drawing 7 (b) shows the layout change back.

[0077]As shown in drawing 7 (a) the lower contents indicator 70 shows the contents CB. When a user wants to arrange to the up side which is easy to recognize the contents CB visually a user operates the upper go button 83 provided in the lower contents indicator 70. Operation of the upper go button 83 is detected as an event and thereby the layout information in the controller 61 is rewritten. As a result as shown in drawing 7 (b) the contents CB are displayed on the upper part and contents CA is displayed on the bottom. here -- being careful - - it is the point that exchange of the contents indicator 70 is performed without moving to another page such as a page style selection menu. The arrangement is changed while each contents indicator 70 had displayed each contents CA and CB.

[0078]Next drawing 8 is an explanatory view in the case of changing the layout of a controller. Drawing 8 (a) shows layout change before and drawing 8 (b) shows the layout change back respectively. When moving the left-hand side controller 61 to right-hand side as shown in drawing 8 (a) for example the user should just operate the right translation button 84 provided in the controller 61. If operation of the right translation button 84 is detected the layout information of the area 51 will be rewritten and as shown in drawing 8 (b) it will be reflected as right translation of the controller 61. The controller 61 takes all the contents indicators 70 belonging to self with it and moves together.

[0079]Drawing 9 is an explanatory view in the case of changing the layout of area. As shown in drawing 9 (a) in the usual state existence of the area 51 is hidden from the user. That is each button for operating the line area name and area which show the boundary of area is not displayed.

[0080]The user who wishes layout change of area operates the layout editing button 97 illustrated by the bottom in drawing 9 (a). Operation of the layout editing button 97 will display an area name a boundary line and the various

buttons 81-83 as shown in drawing 9 (b). The user can change the layout of the area 51 now by operating each buttons 81-83 suitably. here -- being careful -- the layout editing button 97 is a changeover switch for enabling detailed layout change and is a point which is not for making it shift to another page such as a layout editing screen. The layout editing button 97 by this embodiment guarantees a seamless layout change without interrupting the display of each contents indicator 70.

[0081] Next operation of this invention is explained based on drawing 10 - drawing 12. The flow chart to illustrate shows the outline of the flow of processing or operation and is different from a actual program structure in respect of versatility. Hereafter a step is written as "S."

[0082] Drawing 10 is a flow chart which shows the outline of display processing of a page. If a user accesses the offer-of-information server 1 (S1: YES) this user will be shown a public page first (S2). A public page is the page or page group which displays the contents wide opened by all the persons as above-mentioned. The login part for a user to log in is provided in the public area in a public page.

[0083] If a user enters a user name and a password and logs in (S3: YES) it will be judged whether you are a regular registered user (S4). An error message is displayed when it is not a registered user (S5). But in a login surveillance step it may be made to judge whether you are a registered user and S4 and S5 are contained and performed in S3 in that case.

[0084] When the user who accessed is a registered user the user page only for (S4: YES) and its user is displayed (S6). Since the annunciator part 34 for changing a page (page group) is always displayed in the menu area which constitutes public area as shown in drawing 3 the user can move to a desired page by operating an annunciator part (S7). When a public page is chosen it returns to a public page (S8) and when a user page is succeeding displayed when a user page is chosen and (S9) and a group page are chosen it moves to one or more group pages to which a user belongs (S10). The composition of a page is grasped with reference to each data table and drawing and a display of

each page are performed by displaying each object (contents) matched with the controller by a position as mentioned above with drawing 4.

[0085]Drawing 11 is a flow chart which shows the layout change processing by each button. When it judges whether it was operated or not about each button (S21S23S25S27S29S31) and a button is operated operation according to each button is performed (S22S24S26S28S32). Contents can be edited now in the edit mode of S32 (selection change of line unit contentsetc.).

[0086]Drawing 12 is a flow chart which shows contents adding processing. When a user wants to add new contents to the group page which has its user page or change authority a user operates the contents addition button 95 shown in drawing 3 (S41:YES).

[0087]When adding contents a user inputs the specification information for specifying contents including for example the link to contents a path a contents name etc. (S42). The offer-of-information server 1 will generate the new contents adapter 6 if contents designation information is acquired client machine 20.

[0088]When the contents newly added require the basic authentication by an HTTP protocol etc. they generate the HTTP request for login included certification information based on the certification information (a user name and a password) which (S43:YES) and a user inputted for example (S44). That is this offer-of-information server 1 executed authenticating processing to each contents by proxy and has realized what is called a single sign-on. A user can access the offer-of-information server 1 can only log in to service of the offer-of-information server 1 once and can use now two or more contents which require attestation.

[0089]Next it is contents in which a sector display like a web page is possible and when a user wishes the sector display of contents (S45:YES) and the contents adapter 6 access the specified contents and acquire configuration information (S46). Based on the acquired configuration information the offer-of-information server 1 generates a line selection picture carries out the list display of the partial contents of a line unit and waits for a user's selection (S47). If a user chooses desired contents out of each partial contents of a line unit the contents of the

selected line will be acquired (S48) and it will be displayed on the contents indicator 70 (S49).

[0090]On the other handwhen the case of the contents in which a sector display is impossibleor a user does not desire a partial display(S45:NO) and the offer-of-information server 1 acquire the specified contents (S50)and are made to display them on the contents indicator 70 (S51).

[0091]The contents of the selected line are not acquiredbut the whole contents (contents aggregate) are acquiredand only the contents of the selected portion (line) can also be made to draw.

[0092]According to this embodiment constituted in this waythe following effects are done so.

[0093]Selectivelyit writes contents as a display is possibleand the user can choose only the portion for which it asks and it not only can display the whole contentsbut he can peruse information by the optimal organization for self. Since unnecessary contents can be eliminatedthe limited screen space can be used effectively.

[0094]Especially in the sources of information 10 to which renewal of information like a news web site is carried out frequentlyupdating operation is performed mechanically and it has the feature of arranging the contents it was decided for the reasons of raising working efficiency that would be the regular lines (printing position) in many cases. For examplethe top news in a top page is published by fixed placesuch as the upper right of a pageand a center sectionand is published by the "reserved seat" where contentssuch as a stock price and a weather reportalso became settled in many cases. Unless a large change of a page configurationetc. arise the printing position is being fixed according to the attribute of information. And sources of information with higher update frequency have that it is [ more ] useful for a user.

[0095]The new composition of changing a display / un-displaying of information per line (locating position of information) with the composition by which the source of useful information with higher importance was standardized paying



attention to the feature of providing information in many cases is used for this invention. Thereby each user can obtain only desired information easily.

[0096] A layout can be changed seamlessly without interrupting a contents display in order to provide the various control buttons for layout change in each contents indicator 70 grade in one. Since a layout can be easily changed by intuitive operation without passing a special program the layout editing screen of another page etc. user-friendliness improves.

[0097] Since area and a controller were formed and hierarchized in the page and the mistake in area and the arranging direction of a controller is made layout change in an area unit and a layout change in a controller unit can be made. Therefore a layout can be dynamically changed per an area unit or controller or a delicate layout change can also be made by 70 units of contents indicators. By hierarchizing the layout in a page a program can also be simplified and high-speed layout change processing can be performed. Namely if the concept of area or a controller is abolished. [ that it is necessary to provide the go button to all the directions in each contents indicator 70 and ] When movement magnitude is large a go button must be operated repeatedly and the offer-of-information server 1 needs to rewrite layout information at every time. By introducing area and a controller in a page operativity is improved substantially.

[0098] When the layout editing button 97 is operated without always displaying area actualizes existence of area writes layout change as it is possible cannot make a user conscious of existence of area and can use the limited screen space effectively.

[0099] Next a 2nd embodiment of this invention is described based on drawing 13 and drawing 14. In the following explanation the same numerals shall be given to the same component as the component mentioned above and the explanation shall be omitted. The feature of this embodiment is that accesses the offer-of-information server 1 from the client to which inspection environment (screen size a bit rate etc.) was restricted like the Personal Digital Assistant and it peruses information.

[0100]As shown in the screen constitution 30A in this embodiment the place-where-one-has-gone contents selection button 101 for choosing the contents which wish the inspection by a place where one has gone is formed. A user operates the selection button 101 before going out. Operation of the selection button 101 will display the selection box 101 for every contents respectively. That is the selection box 101 is displayed about each of the contents indicator 70 and the partial contents currently displayed.

[0101]A user chooses the contents which wish the inspection by a place where one has gone by operating the selection box 101. This contents selection information is stored in an object data table for every contents. Only preselected contents will be displayed if a user accesses the offer-of-information site 1 with the client machine 20A like a Personal Digital Assistant from a place where one has gone.

[0102]When the offer-of-information server 1 is accessed from a place where one has gone more specifically preselected contents are rewritten and provided in real time with the languages for Personal Digital Assistants (for example CHTML HDML etc.). This contents conversion is performed by the conversion program mounted in the offer-of-information server 1.

[0103]here -- being careful -- even when place-where-one-has-gone contents are chosen they are the point of not giving change at all to the composition of a user page or the group page itself and a point which is not independently necessarily preparing the user page or group page for places where one has gone. When the attribution information for places where one has gone (for mobile) is only added to each object (contents) of every and it is accessed from the usual client machine 20 the usual user page etc. are displayed.

[0104]Drawing 14 is a flow chart which shows an operation of this embodiment. First a user's operation of the place-where-one-has-gone contents selection button 101 will display the selection box (check box) 100 on each contents (S62). (S61) A user chooses desired contents by marking the selection box 100 (S63). After selection of contents is completed (S64: YES) the offer-of-information server

1 marks selected contents and updates the contents of the object data table (S65).

[0105] A public page will be displayed if a user accesses the offer-of-information server 1 from a place where one has gone (S66: YES) (S67). Here when the link to the public page for places where one has gone can also be set up in the top area and menu area in the usual public page or access is analyzed the public page for places where one has gone can also be displayed automatically.

[0106] And when a user logs in it is judged whether they are (S68: YES) and access from a place where one has gone (S69). As mentioned above when the user himself operates the link to the public page for places where one has gone it can judge with it being access from a place where one has gone. Or it is also possible to deduce a remote host name from an IP address and to judge whether it is access from a place where one has gone.

[0107] When it is access from a place where one has gone contents selected by S63 are rewritten in an available language with Personal Digital Assistant such as CHTML the page for places where one has gone is generated and it provides for a user (S70). On the other hand when it is not access from a place where one has gone the usual page is generated and it provides for a user (S71).

[0108] When rewriting contents to places where one has gone here it not only rewrites the source of contents to CHTML (Compact HTML) from HTML or HDML (HyperText Device Markup Language) but it may be made to perform processing of others such as subtractive color processing.

[0109] Even when the offer-of-information server 1 is accessed with the client machine 20A which has a limit in inspection environment like a Personal Digital Assistant according to this embodiment constituted in this way desired information can be perused easily.

[0110] Next based on drawing 15 an example concrete about the important section of the offer-of-information server 1 is explained briefly. This invention is not limited to this example.

[0111] Drawing 15 is an explanatory view showing roughly the relation of each object which constitutes the informational service by the offer-of-information

server 1.

[0112]The object is divided roughly into the user management object group 200the public field management object group 210and the page control object group 220 so that it may mention laterrespectively.

[0113]The user management object group 200 is provided with the following.  
Guest User Information object 201.

User Information object 202.

Group information object 203.

The guest User Information object 201 manages the ID list of the page which a guest holds. The User Information object 202 manages the ID list of the page which each user holds. The group information object 203 manages the ID list of the page which each group holds. The page environment management object 204 determines and manages the page environment with which an access person is provided based on the information passed from each objects 201-203.

[0114]The public field management object 210 is provided with the following.

Public area object 211.

Public controller management object 212.

Public area adapter tube \*\* object 213.

The public area object 211 manages the arrangement information (layout information) of the controller of top areaand the controller of a menu area which constitutes public area. The public controller management object 212 manages all the controller objects belonging to public area. The public area adapter tube \*\* object 213 manages all the contents adapters 6 (the contents indicator 70 is included) belonging to public area.

[0115]The page control object group 220 has the page object 221the controller management object 222and the adapter tube \*\* object 223. The page object 221 manages the arrangement information of all the area which exists in a pageand controllers. The controller management object 222 manages all the controller objects in a page. The adapter tube \*\* object 223 manages all the contents adapters 6 (the contents indicator 70 is included) in a page.

[0116]Determination of the classification (the public page the user page the group page) and page ID of a page which should be displayed based on User Information will generate the public area object 211 and the page object 221 which manage layout information respectively. If a drawing method is performed to the public area object 211 and the page object 221 respectively the contents which each manages will be outputted. Actual contents drawing is left to the controller management object 222 or the adapter tube \*\* object 223.

[0117]This invention is not limited to each embodiment mentioned above. If it is a person skilled in the art various modification can be performed by adding deleting or changing a component into said embodiment. For example since the flow chart of a graphic display is only what showed the flow of processing directly so that an understanding and implementation of an invention may not be spoiled if it is a person skilled in the art easily exchange of a step and it can make deletion change etc.

[0118]The composition of partial selection and a display of the contents described with drawing 6 etc. can be expressed as follows for example can generate the offer-of-information screen which fitted each user by combining with the composition concerning layout change organically and can change a layout now easily.

[0119]

[Effect of the Invention]According to the information service system concerning this invention information can be chosen selectively and can be displayed and each user can compose the contents of an information display freely as explained above.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1]It is an explanatory view showing the entire configuration of the

information service system concerning an embodiment of the invention.

[Drawing 2] It is an explanatory view showing the screen constitution of a client side.

[Drawing 3] It is an explanatory view showing the details of screen constitution.

[Drawing 4] It is an explanatory view showing each data table memorized by the management data base and as for drawing 4 (a) the User Information table and drawing 4 (b) show a page data table drawing 4 (c) shows a controller data table and drawing 4 (d) shows an object data table respectively.

[Drawing 5] It is an explanatory view showing the composition of the attestation data table memorized by the management data base.

[Drawing 6] It is an explanatory view showing how to choose contents selectively per line etc. and display them.

[Drawing 7] It is an explanatory view showing the situation of layout change of a contents indicator and drawing 7 (a) shows the state before layout change and drawing 7 (b) shows the state after layout change respectively.

[Drawing 8] It is an explanatory view showing the situation of layout change of a controller and drawing 8 (a) shows the state before layout change and drawing 8 (b) shows the state after layout change respectively.

[Drawing 9] It is an explanatory view in the case of changing the layout of area and drawing 9 (a) shows the state where area and various buttons are displayed in the state where area and various buttons are hidden as for drawing 9 (b) respectively.

[Drawing 10] It is a flow chart which shows display processing.

[Drawing 11] It is a flow chart which shows the layout change processing by a control button.

[Drawing 12] It is a flow chart which shows contents adding processing.

[Drawing 13] It is an explanatory view showing the important section of the information service system concerning a 2nd embodiment of this invention.

[Drawing 14] It is a flow chart which shows the processing in the case of perusing information with a Personal Digital Assistant etc.

[Drawing 15] It is an explanatory view showing a concrete example of the composition of this invention.

[Description of Notations]

- 1 Offer-of-information server
- 2 Whole Management Department
- 3 Page control department
- 4 Area Management Department
- 5 Controller Management Department
- 6 Contents adapter
- 7 Management data base
- 10 Sources of information
- 20 Client machine
- 21 Client program
- 30 Screen constitution
- 31 Top area
- 32 Menu area
- 41 Page
- 51 Area
- 61 Controller
- 70 Contents indicator
- 81 Disappearance button
- 82 Lower go button
- 83 Upper go button
- 84 Right translation button
- 85 Left translation button
- 86 Help button
- 87 Edit button
- 91 Page addition button
- 92 Page deletion button
- 93 Area addition button

94 Controller addition button

95 Contents addition button

